

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, Yoshiaki Shuto, a citizen of Japan residing at Kawasaki-shi, Kanagawa, Japan have invented certain new and useful improvements in

CONSTRUCTION OF SYSTEM WITH REDUCED  
LOAD ON SYSTEM ENGINEERS

of which the following is a specification : -

1 TITLE OF THE INVENTION

CONSTRUCTION OF SYSTEM WITH REDUCED LOAD ON  
SYSTEM ENGINEERS

5 BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method and a device for constructing a system as well as a memory medium storing a program for constructing a system.

10 Operations of a business corporation usually cover a wide variety of areas involving various types of work even if the whole business is contained in one

industry. Such various types of work are generally compartmentalized, and are assigned to individuals who

15 will be in charge of the assigned work. Such individuals are in possession of the knowledge and know-how of details of the assigned work. A particular individual and department, however, should not retain such knowledge for their exclusive use, and should make

20 it open to other individuals, affiliates of the company, customers, etc., thereby reducing a time for development of products and making efficient use of the time. The present invention particularly relates to a

25 method and a device for constructing such a system as well as a memory medium storing a program for constructing such a system.

In development of software products, in particular, there is a need for a means to learn about details of software development which is underway in other departments. The present invention further relates to a method and a device for constructing a system as well as a memory medium storing a program for constructing a system which permits shared use of the knowledge and know-how of developments between different departments.

2. Description of the Related Art

Fig.1 is an illustrative drawing for

1 explaining related-art install tools.

In the related art, an operation system (hereinafter, referred to simply as OS) is first installed as shown in the figure. At the next step, 5 RDBMS products, OLTP products, software-development programming language, host-related software, and software-development components are installed. Then, settings are made to the environment of the OS and the RDBMS with respect to the RDBMS products, and parameter 10 changes are also made. With regard to the OLTP products, changes are made to the OS environment, and the OLTP products are installed. Further, settings to the environment are made with respect to the host-related software. After all of these, operations of 15 each product are checked, and a connection is confirmed as shown in the figure.

When customers try to introduce a new system package, system engineers make an arrangement that a pertinent system-development division provides 20 consultation, demonstration, and the like for the customers. The system engineers then customize the system so as to satisfy the customer needs, and have the system package delivered to the customers.

Fig.2 is an illustrative drawing showing 25 tasks carried out by the system engineers in the related art.

As shown in the figure, upon talks with a customer, system engineers search for cases which are applicable to the customer's business, and have a 30 demonstration conducted at an application plaza or at an office of a demonstration-development division. After seeing the customer's reaction to the demonstration, the system engineers ask an SI-support division or a system-technology-develop division to 35 consult the customer. After the consultations, the system engineers arrange delivery of necessary software products, and wait until all the software products are

1 obtained. When everything is supplied, the system  
2 engineers install the products in hardware, and execute  
3 a test program to check operations. Further, the  
4 system engineers build a target system by using  
5 standardization rules so as to satisfy the needs of the  
customer.

In this process, it is necessary to install and setup each product as well as to confirm a connection for each product. This results in a lengthy time being needed before establishing links between all the products and making all of them operational.

Further, setting of the environment of each product requires know-how about optimization of parameters so as to achieve a faster operation speed and about handling of troubles such as a failure to establish a connection and a failure to make it operational, for example. Because of this, setting of the environment needs to be handled by experts having specialized knowledge.

20 Another problem is that wrong settings or inadvertent omission of some settings can happen during the course of a setting operation for setting each of a computer name, an IP address, user information, etc.

When a customer tries to introduce a new system package, the most appropriate package in terms of meeting the customer's needs should be selected for the customer, and such a selection is made based on the information, collected from the development divisions, about what kinds of software and hardware are available as products. In this case, if the number of the development divisions is large, the system engineers doing all of this task may suffer the increased load. Also, this leads to a situation in which a bundle of products are sold to the customer, including something that the customer does not use, thereby resulting in a cost increase on the side of the customer.

Fig.3 is an illustrative drawing showing an

1 example of a flow through which software products are  
delivered and a setup is made.

5 As shown in Fig.3, system engineers first  
design a system configuration. The system engineers  
then prepare specifications for software products,  
headers, and scripts of the application environment,  
and place an order to the procurement department. A  
waiting period typically ranges from two weeks to one  
month. In general, all the products do not come in one  
10 delivery, but rather each is delivered individually.

The system engineers need to wait until all the  
products are supplied, and, thereafter, install these  
products one by one in computer. A setup operation is  
then performed, and a check is made with regard to  
15 operations of the system before the system changes  
hands from the system engineers to the customer. If  
bugs are found in a software product, an order must be  
placed for a replacing product. If the software  
products do not perform well to satisfy the customer,  
20 the system operation may be halted to install these  
products again or to check the products. All of these  
described above add to the load on the system engineer.

Accordingly, there is a need for a method of,  
a device for, and a memory medium storing a program for  
25 constructing a system, which satisfy the followings. A  
system construction follows a formatted pattern so as  
to guarantee quality and performance to be  
satisfactory. A modeling system and know-how of  
construction are provided for system engineers to  
30 reduce the load on the system engineers. During the  
course of construction of the system, a system engineer  
can perform a demonstration of operations at his/her  
own desk. The contents of the application environment  
and the programming environment are stored with respect  
35 to each solution pattern.

Further, there is a need for a method of, a  
device for, and a memory medium storing a program for

2025303540454550555560606565707075758080858590909595

1       constructing a system, which provide an environment for  
a default system to operate by means of PP, headers,  
components, scripts, etc., and permit an easy  
installment with a capacity to finish delivery of  
5       software and a setup operation within a matter of a day  
or two rather than taking such a lengthy time period as  
two weeks to one month as required in the related art.

10       Moreover, there is a need for a method of, a  
device for, and a memory medium storing a program for  
constructing a system, which can customize a default  
system at a solution-bank center, and can supply the  
system to the customer after a fine tuning thereof.

15       Also, there is a need for a method of, a  
device for, and a memory medium storing a program for  
constructing a system, which can provide the system  
along with design documents of the default system.

20       Further, there is a need for a method of, a  
device for, and a memory medium storing a program for  
constructing a system, which allows a check on the  
system operation to be conducted only with respect to a  
portion of the system by downloading this portion so  
that the evaluation of the system can be made even  
before delivery of software that meets the customer  
needs.

25       Moreover, there is a need for a method of, a  
device for, and a memory medium storing a program for  
constructing a system, which can categorize systems by  
business transaction models.

30       Also, there is a need for a method of, a  
device for, and a memory medium storing a program for  
constructing a system, which can attain high quality  
and productivity by making reuse of checked components  
built in the default system and sample applications.

35       SUMMARY OF THE INVENTION

      Accordingly, it is a general object of the  
present invention to provide a method of, a device for,

1 and a memory medium storing a program for constructing  
a system, which can satisfy the needs described above.

5 It is another and more specific object of the  
present invention to provide a method of, a device for,  
and a memory medium storing a program for constructing  
a system, which satisfy the followings. A system  
construction follows a formatted pattern so as to  
guarantee quality and performance to be satisfactory.  
A modeling system and know-how of construction are  
10 provided for system engineers to reduce the load on the  
system engineers. During the course of construction of  
the system, a system engineer can use operational  
demonstration from his/her own desk. The contents of  
the application environment and the programming  
15 environment are stored with respect to each solution  
pattern.

20 In order to achieve the above objects  
according to the present invention, a method of  
constructing a system by collecting information and  
know-how, includes the steps of storing information  
25 including development situations, know-how, and  
knowledge in a solution bank by a unit of a solution  
pattern, and obtaining contents corresponding to a  
desired system so as to construct the desired system by  
accessing the solution bank from a computer in which  
30 the desired system is to be constructed.

35 According to one aspect of the present  
invention, the method described above is such that the  
solution bank stores information on an application  
environment including proposals, designs, software,  
know-how, and a programming environment.

40 According to another aspect of the present  
invention, the method described above is such that the  
step of obtaining contents includes the steps of  
accessing the solution bank based on information  
45 including a business model, transaction forms, and a  
project size, and selecting items of desired

1 information from items presented by the solution bank.

According to another aspect of the present invention, the method described above is such that the step of obtaining contents includes the steps of 5 accessing the solution bank based on information including a solution pattern, a machine being used, a product being used, and supplying an application environment of a default system from the solution bank to the computer in which the desired system is to be 10 constructed.

According to another aspect of the present invention, the method described above is such that the step of obtaining contents further includes the step of supplying design documents of the default system from 15 the solution bank to the computer in which the desired system is to be constructed. .

According to another aspect of the present invention, the method described above is such that the solution bank provides a solution pattern categorized 20 according to a business-transaction model which is requested by the computer in which the desired system is to be constructed.

According to another aspect of the present invention, the method described above is such that the solution bank provides only a partial function of a 25 solution pattern for the computer in which the desired system is to be constructed.

According to another aspect of the present invention, the method described above further includes 30 the steps of checking components incorporated into a default system which is used as a basis for the desired system, and utilizing the checked components for a computer in which another system is to be constructed.

According to another aspect of the present 35 invention, a system for constructing a system by collecting information and know-how includes:

a solution bank including:

162576 162576 162576 162576

1 content storing means for storing information  
including development situations, know-how, and  
knowledge by a unit of a solution pattern; and  
solution-pattern providing means for  
5 providing the information stored in the content storing  
means as a solution pattern or a portion of the  
solution pattern in response to a request; and  
a system-construction device which obtains  
contents corresponding to a desired system from the  
10 solution bank so as to construct the desired system by  
accessing the solution bank.

According to another aspect of the present  
invention, the system described above is such that the  
solution bank stores information on an application  
15 environment including proposals, designs, software,  
know-how, and a programming environment.

According to another aspect of the present  
invention, the system described above is such that the  
system-construction device includes accessing means for  
20 accessing the solution bank based on information  
including a business model, transaction forms, and a  
project size, and selecting means for selecting items  
of desired information from items presented by the  
solution bank.

25 According to another aspect of the present  
invention, the system described above is such that the  
access means accesses the solution bank based on  
information including a solution pattern, a machine  
being used, a product being used, and the solution-  
30 pattern providing means supplies an application  
environment of a default system from the solution bank  
to the system-construction device.

According to another aspect of the present  
invention, the system described above is such that the  
solution-pattern providing means further supplies  
35 design documents of the default system from the  
solution bank to the system-construction device.

1           According to another aspect of the present  
invention, the system described above is such that the  
solution-pattern providing means provides a solution  
pattern categorized according to a business-transaction  
5           model which is requested by the system-construction  
device.

10           According to another aspect of the present  
invention, the system as described above is such that  
the solution-pattern providing means provides only a  
partial function of a solution pattern for the system-  
construction device.

15           According to another aspect of the present  
invention, a machine-readable memory medium having a  
program embodied therein for constructing a system by  
collecting information and know-how is presented. The  
program includes a solution-pattern providing program-  
code device configured to cause a solution bank, which  
stores information including development situations,  
know-how, and knowledge by a unit of a solution  
20           pattern, to provide the information as a solution  
pattern or a portion of the solution pattern in  
response to a request, and a system-construction  
program-code device configured to cause a system-  
construction device to obtain contents corresponding to  
25           a desired system from the solution bank so as to  
construct the desired system by accessing the solution  
bank.

30           According to the present invention described  
above, contents are stored in the solution bank by a  
unit of a solution, and are supplied as a solution in  
its entirety or as a portion of the solution in  
response to an access from the system-construction  
device operated by a system engineer. In this  
configuration, the system engineer does not have to  
35           arrange delivery of each component and tool in  
accordance with the business practice of the customer,  
and only notifies the solution bank of necessary

20253035404545505555606565707575808585909595

1 information to obtain appropriate contents  
corresponding to the business practice. All of these  
can be done by working on a device provided at the  
system-engineer's own desk or at a site of the  
5 customer. Namely, the system engineer can obtain the  
contents, perform a demonstration, etc., without  
leaving his/her own desk or the customer site.

Further, the solution bank according to the  
present invention includes information on an  
10 application environment including proposals, designs,  
software, know-how, and a programming environment,  
thereby making it possible to provide contents suitable  
for the business practice of the customer by selecting  
such contents from various application environments.  
15 Namely, there is no need for the system engineer  
himself/herself to find necessary contents, thereby  
reducing the load on the system engineers.

Moreover, the solution bank is accessed by  
the system engineer based on the information including  
20 a business model, transaction forms, and a project  
size, and the items of the information supplied from  
the solution bank is subjected to a selection of  
necessary items. This achieves elimination of  
unnecessary information, leaving only the items which  
25 satisfy the customer needs.

Also, the solution bank is accessed by the  
system engineer when the system engineer specifies a  
solution pattern, a machine being used, a product being  
used. In response, the solution bank provides the  
30 application environment of the default system in one  
batch. This eliminates a need to construct a default  
system step by step by collecting individual  
components, thereby shortening a system-construction  
time.

35 Further, design documents of the default  
system can be obtained from the solution bank in one  
batch, so that the system engineer does not have to

1 collect the design documents one by one for each  
design. This results in a reduction in a system  
construction time.

5 Moreover, a solution pattern is categorized  
according to the business transaction model, and is  
provided from the solution bank. This reduces the load  
imposed on the system engineer, and makes it possible  
to complete the procurement of software and the setting  
up of the system within a matter of a day or two while  
10 it would have taken at least two weeks to one month in  
the related art.

15 Further, only a partial function of the  
contents can be obtained from the solution bank, so  
that a test run may be conducted to provide an  
evaluation of the partial function with an aim of  
helping in determining whether to purchase the entire  
function. This allows an evaluation to be made with  
regard to software before ordering the software,  
helping to determine a general direction toward the  
20 construction of the system. Since the partial function  
is actually presented to the customer, it helps the  
customer to visualize the picture of the system for the  
better understanding thereof.

25 Also, contents incorporated into the default  
system are checked, so that the checked components are  
reused when another system engineer requests these  
components. This achieves a high productivity, and  
renders a high quality to the system.

30 Other objects and further features of the  
present invention will be apparent from the following  
detailed description when read in conjunction with the  
accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

35 Fig.1 is an illustrative drawing for  
explaining related-art install tools;

Fig.2 is an illustrative drawing showing

1 tasks carried out by system engineers in the related  
art;

5 Fig.3 is an illustrative drawing showing an example of a flow through which software products are delivered and a setup is made;

Fig.4 is an illustrative drawing showing a configuration of a system-construction system based on a solution bank according to the present invention;

10 Fig.5 is a flowchart showing operations of a system-construction-know-how extracting device according to the present invention;

Fig.6 is an illustrative drawing for explaining how a demonstration system of the present invention works;

15 Fig.7 is an illustrative drawing for explaining an application environment of a default system;

Fig.8 is an illustrative drawing for explaining a method of providing a default system;

20 Fig.9 is a flowchart of operations performed at the time of providing a default system according to the present invention;

Fig.10 is an illustrative drawing showing an example of default-system-design documents;

25 Fig.11 is a flowchart combined with an illustrative drawing for explaining the downloading of a partial function;

Fig.12 is a flowchart for explaining a process of categorization according to the present invention;

30 Fig.13 is an illustrative drawing showing an example of a hierarchical structure;

Fig.14 is an illustrative drawing for explaining a process of evaluating software before a delivery thereof to a customer according to the present invention;

Fig.15 is an illustrative drawing showing a

1 process of generating an installment medium;

Fig.16 is an illustrative drawing showing a process of installing all components;

5 Fig.17 is an illustrative drawing showing a procedure that system engineers follow according to the present invention;

Fig.18 is an illustrative drawing for explaining reuse of components;

10 Fig.19 is an illustrative drawing showing an example of a displayed screen used at the time of solution-pattern selection according to an embodiment of the present invention;

15 Fig.20 is an illustrative drawing showing an example of another displayed screen used at the time of solution-pattern selection;

Fig.21 is an illustrative drawing showing an example of yet another displayed screen used at the time of solution-pattern selection; and

20 Fig.22 is an illustrative drawing showing an example of a list of software products used by customers.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

25 In the following, embodiments of the present invention will be described with reference to the accompanying drawings.

Fig.4 is an illustrative drawing showing a configuration of a system-construction system based on a solution bank according to the present invention.

30 The system of Fig.4 includes a system-construction-know-how extracting device 100 and a solution-bank center 200.

35 The system-construction-know-how extracting device 100 is used by system engineers and customers, and is connected to the solution-bank center 200 via a network or the like. The system-construction-know-how extracting device 100 is equipped with a function to

1 extract exemplary cases or the know-how of designs or  
the like from the solution-bank center 200, and, also,  
is equipped with a function to install the extracted  
information in the system-construction-know-how  
5 extracting device 100.

The solution-bank center 200 searches for  
factual-case files or know-how-pattern-design kits in  
response to an access from the  
system-construction-know-how extracting device 100, and  
10 retrieves exemplary cases, design formats, a guide to  
an educational course, standardization rules, means-  
design kits, etc.

In what follows, operations will be described  
with regard to a case in which a system engineer  
15 accesses the solution-bank center 200 from his/her own  
terminal for the purpose of demonstrate operations of a  
system.

Fig.5 is a flowchart showing operations of  
the system-construction-know-how extracting device 100  
20 according to the present invention.

At a step S101, a business talk is held with  
a customer with regard to the construction of a  
particular system.

At a step S102, the system engineer makes a  
25 search request to the solution-bank center 200 with  
regard to business models, transaction forms, project  
sizes, products to be delivered to the customer, etc.

At a step S103, the solution-bank center 200  
searches for factual-pattern files and  
30 know-how-pattern-design kits. If searched objects are  
retrieved, the procedure goes to the step S104.  
Otherwise, the procedure is brought to a halt. In the  
latter case, another search may be conducted by using  
other search keywords.

35 At a step S104, since the search came up with  
retrieved results, a close look is taken at the  
retrieved information by using a browser provided in

1 the system-construction-know-how extracting device 100. Here, the retrieved information includes tags indicating item names or the like attached to respective items of information for indication  
5 purposes.

At a step S105, the system engineer selects tags which are applicable to the customer. If the selection of the tags is made, the procedure goes to a step S106. If the selection of tags is difficult to  
10 make because of an excessive number of the tags, the procedure goes to a step S107.

At the step S106, the system-construction-know-how extracting device 100 uses an installment function thereof to install therein the exemplary cases or the know-how patterns from the solution-bank center 200 based on the tags selected at the step S105.

At the step S107, when it is difficult to select tags because an excessive number of tags are resulted from the use of current search keys, another  
20 search is conducted in the solution-bank center 200 after narrowing the range of search by changing the search keys. Then, the procedure goes back to the step S102.

In what follows, operations will be described  
25 with regard to a case in which the system engineer or the customer performs a demonstration based on sample programs by accessing the solution-bank center 200.

Fig.6 is an illustrative drawing for explaining how the demonstration system of the present  
30 invention works.

As shown in the figure, the system engineer may visit the solution-bank center 200, and use a terminal therein to demonstrate the system under the real conditions by using sample programs.

35 Without making a visit to the solution-bank center 200, the system engineer may use a WWW browser of the system-construction-know-how extracting device

1 100 provided at his/her desk so as to access program-  
2 execution image data (e.g., Lotus Screen Cam) via a  
3 network (e.g., FJ-WAN). In this manner, the system  
4 engineer may download voice descriptions and replay the  
5 downloaded voice data at the system-construction-know-  
6 how extracting device 100 (personal computer).

7 In the case where the system engineer is  
8 posted at a site of the customer, he/she may access the  
9 solution-bank center 200 via a network (e.g., Mobile-  
10 FNET) by using a PHS (personal handy-phone) or the like  
11 in order to obtain necessary information.

12 In what follows, a description will be given  
13 with regard to a case in which an application  
14 environment of a default system is provided from the  
15 solution-bank center 200 so as to install the same in  
16 the system-construction-know-how extracting device 100.

17 Fig.7 is an illustrative drawing for  
18 explaining an application environment of a default  
19 system.

20 The solution-bank center 200 includes various  
21 exemplary cases (field projects), know-how (regarding  
22 components, formats, designs), information regarding  
23 products (e.g., handbooks, check results,  
24 consultation), or the like supplied from a set of  
25 computers connected via the network. Namely, these  
26 items are kept in the solution-bank center 200 as  
27 available solution patterns. For system-operation  
28 purposes, backup shells, batch-job control, monitor-  
29 item definitions, etc., are provided. The application  
30 system includes sample applications and skeleton  
31 components (for an input check, an updating process, a  
32 tallying process, a matching process, and the like).  
33 Further, a DB-generation unit, file-transfer  
34 definitions, work-unit definitions, and the like are  
35 provided as the Symfo WARE. The operation system  
36 includes a disk layout and parameter definitions.

37 The application environment (PP, definitions,

1 components, scripts, and so on) of the default system  
is treated as design know-how, and is supplied to the  
system engineers as a real environment to work with.  
Because of this, the system-construction-know-how  
5 extracting device 100 can simply make a copy of systems  
when there is a need to install the systems operable in  
this environment.

Fig.8 is an illustrative drawing for  
explaining a method of providing a default system. As  
10 described above, the systems operable in the real  
environment include DB-data associations, TP monitors,  
languages, and operation management tools as PP-related  
information, and further include design documents,  
definitions/scripts, components/skeletons, sample  
15 applications, data, installers, etc., as the pattern-  
related information. These items are customized in  
accordance with each customer's needs, and are copied  
(installed) to the memory medium of the system-  
construction-know-how extracting device 100.

20 The PP-related information and the pattern-  
related information are supplied to the customer for  
the trial use thereof until a contract is signed.  
After the signing of a contract, these items are  
supplied as fully-arranged products.

25 In what follows, operations performed at the  
time of providing the default system will be described.

Fig.9 is a flowchart of operations performed  
at the time of providing a default system according to  
the present invention.

30 At a step S201, a decision is made as to  
whether components of the default system are applicable  
after consulting with experts of the solution-bank  
center 200. Alternatively, portions of the default  
system are identified as portions needing to be  
35 customized in order to satisfy the customer needs.

At a step S202, the identified portions are  
customized in accordance with business requirements.

1           At a step S203, a check is made on operations  
of the customized system, and tuning is applied to  
enhance performance.

5           At a step S204, a backup system is created  
with respect to the customized default system.

              at a step S205, the default system is  
installed in the user machine. After the installment,  
operations of the default system are checked.

10          Selection of the portions needing to be  
customized at the step S201 is made based on the  
default-system-design documents as shown in Fig.10.

              In the following, a description will be given  
with regard to operations performed when only a partial  
function of the contents is downloaded from the  
15        solution-bank center 200 to the system-construction-  
know-how extracting device 100. This process may be  
useful if used in checking operations when only a  
partial function is installed at the step S205  
described above.

20          Fig.11 is a flowchart combined with an  
illustrative drawing for explaining the downloading of  
a partial function.

              At a step S301, a system engineer tries a  
partial function at the system-construction-know-how  
25        extracting device 100 after the partial function is  
installed from the solution-bank center 200.

              At a step S302, a portion of the default  
system is selected by using a browser.

              At a step S303, the selected default system  
30        is downloaded from the solution-bank center 200. In an  
example of Fig.11, two functions, i.e., a print  
function and an identification function, are  
downloaded.

              At a step S304, the system engineer checks  
35        the operations of the downloaded components at the  
system-construction-know-how extracting device 100.

              In what follows, a description will be

SISTEM DESIGN DOCUMENT

1 provided with regard to a process which categorizes  
solution patterns according to the customer's business  
transaction model on the side of the solution-bank  
center 200.

5 Fig.12 is a flowchart for explaining the  
process of categorization according to the present  
invention.

10 At a step S401, an exemplary case is  
identified among real projects being engaged on the  
customer side.

15 At a step S402, the identified case is  
transformed into a solution pattern. Then, a  
classification under which the solution pattern is  
categorized is determined.

20 At a step S403, the solution pattern is  
categorized by the classification. Classification may  
include operational management, a work flow, GW, DWH, a  
base-system model, and so on, wherein the base-system  
model includes a host-centralized processing model, a  
25 server-centralized processing model, and a distributed  
processing model.

25 The solution pattern described above includes  
items which are organized in hierarchy as shown in  
Fig.13, and are stored as the contents of the solution-  
bank center 200. There are three levels in the  
hierarchy in an example of Fig.13. However, the number  
of levels is not limited to three, and can be any  
number. In the figure, the know-how contents shown as  
30 the "three level hierarchy (GS-NI-PS)" model may  
further include "operation-environment-expansion  
scenario", "operation-environment illustrative  
description", etc., and "operation-environment  
illustrative description" may further include  
"operation-environment/illustrative-description  
35 download". The contents hierarchically organized in  
this manner form a base from which a necessary content  
is extracted and categorized.

1                   In what follows, a description will be  
provided with regard to a case in which the system  
engineer gets hold of the contents from the system-  
construction-know-how extracting device 100 and  
5                   evaluates the same before delivering software to the  
customer.

Fig.14 is an illustrative drawing for explaining a process of evaluating software before the delivery thereof to the customer according to the present invention.

15 A system engineer posted at a customer site sends inquiries regarding construction of a customer system and a request for consultation from the system-  
construction-know-how extracting device 100 to the solution-bank center 200. In response, demonstrations are carried out as part of consultations on the side of the solution-bank center 200, and a review is made as to whether a system can be introduced. Further, the contents are supplied to the system engineer as a trial  
20 pattern (a SoftLook version) for temporary use. For example, a trial period of the SoftLook version may be set to three months with a key, so that the key is locked to prevent further use after an expiration of this time period. If the contract is extended, the key  
25 is unlocked to permit further use or allow a reinstatement of the contents.

The system engineer at the customer site installs the components supplied for temporary use in the customer computer, and evaluates the components by running these on the computer. The customers are asked to participate in the reviewing process, and decisions are made to select necessary components from the components provided as the SoftLook version. A purchase contract is made only with respect to the necessary contents. After the signing of the contract, products are delivered from the shipment division. Here, the delivered products include software and

1 hardware or either one of them.

When the products are supplied to the customer, they are installed again.

5 Fig.15 is an illustrative drawing showing a process of generating an installment medium.

A system engineer on the provider side (bank) generates a model environment, and makes a backup copy of the changed portions of the systems except for the OS portions. The system engineer then prints out a 10 list of products. After the completion of the backup-copy process, an installer is incorporated into the medium to complete the installment medium. The installment medium is then handed to a system engineer on the customer side along with the printout of the 15 list of products.

In what follows, the procedure which the system engineer on the customer side follows after receiving the installment medium will be described.

20 Fig.16 is an illustrative drawing showing a process of installing all components.

An OS is first installed, and, then, the installment medium having software components recorded therein as described above is used for installing all the components. At the time of installment, 25 identification information of the personal computer (e.g., a name of the computer, an IP address, a user ID, and so on ) is entered. A check is made on the operations of the installed software components, and an evaluation is made with respect to each of them. If 30 there is a product that turned out to be unnecessary based on the evaluation, this product is deleted. Products which are actually purchased are named in a printout of a list of products, and the printout of the list is used for ordering.

35 In this manner, all the products are installed at once by using the installment medium, so that a setup time is relatively short. The system

1 engineer on the customer side does not need special  
knowledge because the environment-related settings of  
each product are made in advance in the installment  
medium. Also, the identification information of the  
5 computer is entered on the same screen, so that there  
is little room for typographical mistakes. Since the  
environment is checked in advance as to the operability  
thereof, evaluation of the operations thereof can be  
readily made immediately after the installment of the  
10 products. Further, since the actual order to purchase  
the products is made after making the evaluation, an  
accurate order without omission or excess items can be  
made. The list of the products includes necessary  
products and order codes (product codes) thereof, so  
15 that a time to fill out the order can be shortened.

In summary, tasks of the system engineers  
between the customer side and the bank side are as  
follows.

20 Fig.17 is an illustrative drawing showing a  
procedure that system engineers follow according to the  
present invention.

25 As shown in Fig.17, the system engineers  
select a solution pattern from the solution patterns  
stored in the solution-bank center 200 by operating on  
the system-construction-know-how extracting device 100  
so that the selected solution pattern is applicable to  
the customer with whom business talks are underway, and  
download software components from the solution-bank  
center 200 to a memory medium with respect to the  
30 selected solution pattern. The contents stored in the  
medium is then installed in the customer-side computer  
by operating the installer. Finally, the installed  
contents are operated, and are subjected to operation  
checks.

35 A description will be given below with regard  
to a case in which checked components, sample  
applications, or the like provided in the default

1 system are subjected to reuse thereof. Here, the reuse  
of the checked components may be made with respect to  
packaged components or any other forms of components.  
Such information about a default system as PP,  
5 components, environment definitions, sample  
applications, and so forth is copied to a check system  
of the SI vendor, where a technical evaluation is made  
on the default system. Then, such tools as performance  
tools, design know-how, trouble information,  
10 standardization information, etc., are transferred from  
the default system to a target system. In the target  
system, copied and checked components are subjected to  
reuse thereof for design purposes, and are used in  
another system. In this manner, high productivity and  
15 high quality can be achieved.

In the following, an embodiment of the  
present invention will be described.

In an example set forth in the following, a  
description will be given with regard to a case in  
20 which a system is constructed for a customer by a field  
system engineer (working at the customer site)  
interacting with the solution-bank center 200.

Fig.19 is an illustrative drawing showing an  
example of a displayed screen used at the time of  
25 solution-pattern selection according to an embodiment  
of the present invention. Fig.20 is an illustrative  
drawing showing an example of another displayed screen  
used at the time of solution-pattern selection, and  
Fig.21 is an illustrative drawing showing an example of  
30 yet another displayed screen used at the time of  
solution-pattern selection.

On a browser screen shown in Fig.19, items  
for multiple choices are shown with respect to a  
pattern, a machine being used, and a product being  
35 used. In this example, the system engineer selects  
"base-system transaction" for the pattern, "GP5000" and  
"GS" as the machine he/she is using, and "SymfoWARE" as

1 the product he/she is using. Based on these  
selections, a search result is obtained from the  
solution-bank center 200 as shown in Fig.20, providing  
information about "base-system-tri-hierarchical-level  
5 GS-GP5000" displayed on the browser screen. It is  
possible that a plurality of search results are  
obtained, in which case these results may be displayed  
by use of a scroll bar.

10 In the example of Fig.20, the system engineer  
selects an illustrative-description document from the  
item "planning", a design document and  
components/samples from the item "design/construction",  
and a design kit from the item "know-how" under the  
title "application environment".

15 As a consequence of the selection, a guide as  
shown in Fig.21 is displayed so as to indicate  
conditions to which the base-system-tri-hierarchical-  
level GS-GP5000 pattern can be properly applied. Using  
this guide, the system engineer proceeds with a task of  
20 selecting components meeting the customer needs.

25 In this manner, the bank side receives  
information about components selected by the system  
engineer posted at the customer site. Upon receipt of  
the information, a list as shown in Fig.22 is  
generated. In this example, Fig.22 shows a list of  
software products used by the customer, and the list is  
comprised of such column fields as software names,  
functions, prices, etc. When the system engineer at  
the customer site receives the list, the list can be  
30 shown to the customer as a quota. The system engineer  
at the customer site deletes unnecessary items from the  
list, and adds necessary items to the list. In this  
manner, the customer can avoid signing a contract  
including unnecessary items by simply deleting them  
35 from the list.

The present invention is readily implemented  
as software embodying functions of the system-

1 construction-know-how extracting device 100 and the  
solution-bank center 200. Such software may be stored  
in a computer-readable memory medium connected to the  
hardware of the system-construction-know-how extracting  
5 device 100 and the solution-bank center 200, and the  
memory medium may be provided in the form of a floppy  
disk, a hard drive, CD-ROM, or the like. The solution  
system is implemented by installing the software in the  
respective devices.

10 Further, the present invention is not limited  
to these embodiments, but various variations and  
modifications may be made without departing from the  
scope of the present invention.

15

20

25

30

35